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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/743,837

01/16/2001

Kei Yoshida

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24737

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10/01/2004

PHILIPS INTELLECTUAL PROPERTY & STANDARDS

P.O. BOX 3001

BRIARCLIFF MANOR, NY 10510

EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/743,837

Applicant(s)

YOSHIDA, KEI

Examiner

Prasad R Akkapeddi

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-10 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/04/2004 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsui et al. (Mitsui) (U.S. Patent No. 5,734,457) in view of Stewart et al. (Stewart) (U.S. Patent No. 4,892,391) and further in view of Yoshida et al. (Yoshida) (U.S. Patent No. 5,734,455).

As to claim 1: Mitsui discloses a reflection type color liquid crystal display device (Fig. 5) for displaying a color image formed based on unit pixels (Fig. 2) each comprising sub-pixels corresponding to primary colors (4a, 4b, 4c) a liquid crystal layer (12), driving electrodes, a reflection layer (48) reflecting light which

is incident thereon via the liquid crystal layer, a transparent electrode layer (23) and pixel electrode layer (col. 15, line 63), the transparent layer (23) located on a side of one main surface (13a) of the liquid crystal layer (12), the pixel electrode layer located on a side of another surface (13b) of the liquid crystal layer on which light reflected from the reflection layer (48) is incident and a color filter layer (4a, 4b, 4c) comprising primary colors (red, green, blue) for the light to be transmitted through the liquid crystal layer, the sub-pixels (under each color pixel 4a, 4b, 4c), the unit pixel further comprises a sub-pixel (Fig. 2) for increasing luminance.

Mitsui discloses only one portion that performs coloring of primary colors and does not disclose an additional portion that filters or transmits light component of predetermined wavelengths.

Stewart in disclosing a color display device discloses a color filter that performs coloring of primary colors and an additional portion that transmits white light and hence a component of predetermined wavelength (Fig. 2 of Stewart).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the color filter of Stewart containing two portions to the device of Mitsui to obtain a color alpha-numeric display having an array of multi-cell pixels arranged along horizontal and vertical axes includes an improved arrangement for the cells comprising the pixels wherein each of the pixels includes a brightest cell, a bright cell, a medium cell and a dark cell (col. 2, lines 5-10).

In addition, Mitsui discloses a light reflection layer (48) that scatters light due to the microscopic asperities (Fig. 5). However, this scattering layer is not on the front side as recited in the instant claim 1.

Yoshida in disclosing a reflective color liquid crystal display discloses a scattering layer on the front side of the display (31) having corrugations (col. 9, lines 1-5) and Fig. 2. These corrugations can be considered to be microscopic asperities due to their height of 1 to 5 microns (col. 9, line 3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the light scattering layer on the front side of the display as disclosed by Yoshida to the display of Mitsui and Stewart to provide a brighter display with increased opening ratio and contrast (col. 3, lines 28-31).

As to the newly added limitation "a color filter layer having a common electrode formed over its entire surface", it is respectfully pointed out that Mitsui does disclose a common electrode (23') on the entire surface of the color filter (18') and Yoshida also in describing (although not shown in figures) the conventional art teaches that a transparent counter electrode is formed opposing each pixel electrode on the inner surface of the other substrate (col. 1, lines 32-34) and filters of a plurality of color e.g., red, green and blue color filters are arranged on one substrate of the liquid crystal cell in correspondence with each pixel electrode (col. 2, lines 18-22). Hence, both the original references teach the newly recited limitation in the instant claim.

As to claim 2: Mitsui discloses the color filter layer (41) located on a side of the one main surface (13a) on which extraneous light is incident (Fig. 5).

As to claim 3: Mitsui discloses that the color filter layer is located on a side of another surface (13b) of the liquid crystal layer on which light reflected from the reflection layer (48) is incident (Fig. 4).

As to claim 4, 11 and 12: Stewart discloses white light (Fig. 2).

As to claims 5 and 13-15: Both Mitsui and Yoshida disclose the commonality of the reflection layer (48, Mitsui, col. 15, lines 62-64) and (Yoshida, col. 6, lines 5-8).

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. (a) Yoshida et al. (U.S. Patent No. 5,936,693) teaches a common electrode (31) on the entire front surface of the color filter (33); (b) Matsuoka et al. (U.S. Patent No. 6,348,958) also teaches that a common electrode (13) formed over the entire surface of the color filter (15) and (c) Sekiguchi (U.S. Patent No. 6,084,650) (previously cited) also teaches that a common electrode (9) formed over the entire surface of the color filter (11).

Allowable Subject Matter

4. Claims 6-10 are allowed.

5. The following is an examiner's statement of reasons for allowance:

A search of the prior art did not disclose a light scattering film and a method of manufacturing comprising a combination of the structural elements, more specifically:

(a) A color filter with one additional portion and the light scattering portion are together integrally formed from the same material.

Response to Arguments

6. Applicant's arguments with respect to claims 1-5 and 11-15 have been considered but are moot in view of the new ground(s) of rejection.

7. Claims 6-10 are allowed as indicated in the previous office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 571-272-2285. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRA

Prasad R Akkapeddi, Ph.D
Examiner
Art Unit 2871


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER